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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/118,010 07/17/98 YAMAZAKI S 0756-1838

MM1/0316
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| EXAMINER | |
|-------------|--------------|
| GUERRERO, M | |
| ART UNIT | PAPER NUMBER |

2822

DATE MAILED:
03/16/00

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary

Application No.
09/118,010

Applicant(s)
Yamazaki et al.

Examiner
Maria Guerrero

Group Art Unit
2822



☒ Responsive to communication(s) filed on Dec 20, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-8 and 11-37 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-8 and 11-37 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☒ received in Application No. (Series Code/Serial Number) 08/962,840.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

1. This Office Action is in response to the Request for a CPA filed December 20, 1999.

Claims 9-10 are canceled.

Claims 1-8, 11-37 are pending.

Continued Prosecution Application

2. The request filed on December 20, 1999 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/118,010 is acceptable and a CPA has been established. An action on the CPA follows.

Specification

3. The disclosure is objected to because of the following informalities: the PET film and the acrylic layer are using the same reference 102; Specification, page 6, line 22 .

Appropriate correction is required.

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8, 11-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakai et al. (U.S. 5,055,899) in view of Takenouchi et al. (U.S. 5,427,961).

Wakai et al. discloses an inverted staggered TFT having a pixel electrode, an insulating substrate 101, a gate insulating film 103, a semiconductor film 104 (amorphous silicon or the like) (col. 4, lines 15-30, col. 5, lines 40-45), an insulating film 108 can be comprising polyimide or an acrylic resin over a semiconductor layer 104 (see col. 6, lines 2-10), a transparent electrode 110 made of ITO is a pixel electrode; source and drain (106 and 107). Wakai et al. teaches the first insulating film 108a is used to flatten the uneven surface above an insulating substrate (fig. 7, col. 7, lines 48-57).

Wakai does not specifically show the substrate consisting of: polyethylene terephthalate, polyethylene naphthalate, polyethylene sulfite and polyimide as claimed. Wakai does not specifically show the resinous material consisting of: methyl ester of acrylic acid, ethyl ester of acrylic acid, butyl ester of acrylic acid and 2-ethylhexyl ester of acrylic acid as claimed. However, this is known in the art as evidenced Takenouchi et al.

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Takenouchi et al. discloses a semiconductor device having a resinous substrate, the resinous substrate made of polyester (e.g, PET (polyethylene terephthalate)), polyimide, fluoroplastic, PES (polyether sulfane) (col. 3, lines 49-55). Takenouchi et al. also teaches a resinous layer provided on the resinous substrate including an acrylic resin (e.g., methyl acrylate ester, ethyl acrylate ester, butyl acrylate ester, and 2-ethyhexyl acrylate ester (col. 3, lines 55-60). Takenouchi et al. discloses providing the film on the substrate with the purpose of leveling the initial surface irregularities (col. 4, lines 10-15).

It would have been obvious to a person of ordinary skill in the art to modify Wakai et al. 's semiconductor device by specify the use of the material suggested by Takenouchi et al. The modification would provide a low cost semiconductor device easily handled having a larger field of application and free from oligomeros (Takenouchi et al., col. 1, lines 15-25, col. 3, lines 20-25).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takemura (U.S. 5,530,265), Hack et al. (U.S. 5,717,223) disclose a thin film transistor having a microcrystalline silicon layer. Kanai et al. (U.S. 4,868,014) teaches as known in the art than microcrystalline silicon is included within the category of amorphous silicon (col. 1, lines 25-30).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Guerrero whose telephone number is (703) 305-0162. The examiner can normally be reached on Monday-Friday from 8:00 Am to 4:30 Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, can be reached on (703) 308-4940. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

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March 10, 2000


Carl Whitehead, Jr.
Supervisory Patent Examiner
Technology Center 2800